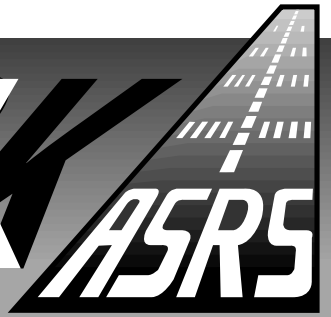


CALLBACK

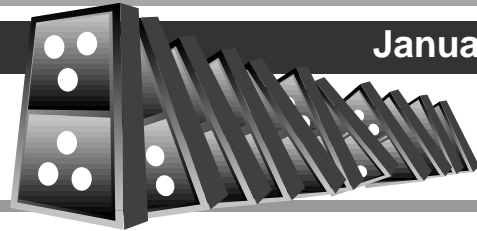
From NASA's Aviation Safety Reporting System



Number 211

January 1997

The Domino Effect



Schedule pressure, poor weather conditions, a runway change in progress, and high traffic volume can stretch both pilot and controller workload nearly to the limit. A Captain tells of an escalating series of problems—a runway incursion, an aborted takeoff, a near on-the-ground collision, and an air carrier go-around—all of which began with an unauthorized frequency change.

■ *The ATIS information we received stated, “departing runway 14, hold-short line #1 in use, landing runway 23.” An aircraft that had just landed stated on Ground frequency, “Braking action was poor transitioning to nil at the end of runway 23.” Sitting number 3 for departure still on Ground frequency, we asked if they wanted us to contact Tower. Ground Control said no, not yet. A minute or two later, the aircraft in front of us started to taxi onto the runway for departure. Not wanting to miss our soon-expected taxi-into-position clearance for departure from Tower, we flipped the frequency to Tower. Following behind the leading aircraft, we started to continue our taxi up to the #1 hold-short line. As we passed the #2 hold-short line, Tower called us and told us to hold short of hold line #2. Since we were already past it, I told the First Officer to tell Tower we were already past line #2. Tower responded, “Oh.”*

Apparently when the braking action on runway 23 was reported poor-to-nil, they closed runway 23 and changed operations to also land on runway 14...Hold line #2 is for the runway 14 ILS critical area protection. We were in it. It was snowing pretty good, and we were nearing our hold-over time—we wanted to depart soon. In the future, I'll confirm I can leave the frequency before I flip the switch.

But our reporter's story doesn't end there. After the confusion over the hold-short lines and with an aircraft on final approach, ATC gave their best effort to get this crew on its way. The Captain continues:

■ *Apparently, ATC wanted to get us out before the first runway 14 arrival because we were in the ILS critical area. We were given “position and hold runway 14”... then “cleared for takeoff, [another jet] on two-mile final runway 14.” At about 70 KIAS, air carrier Y came into view taxiing across our runway. I called “abort, abort,” and the First Officer aborted the takeoff. During the abort, I announced on Tower frequency that “[We are] aborting our takeoff, air carrier Y is taxiing across the runway.” A few seconds later, the jet on final asked, “Is the runway clear yet?” We were in our turn clearing the runway when Tower instructed the jet on final to go around.*

If the visibility had been much lower, we might not have been able to stop, that is, at higher speed and with less distance to stop. And with possibly no radio call from either (potentially crashed) aircraft on the ground, the landing aircraft could have joined the pileup with no warning.

Some pilots make it a practice not to change to Tower frequency until the runway is the only place left to taxi.

A Weighty Problem

Ice on the runway is bad enough. Ice on any part of an aircraft—especially one without deicing equipment—can have an immediate and dramatic effect on the plane's ability to remain aloft. A general aviation pilot reports:

■ *I entered a cloud layer at 8,000 feet. Air temperature was 1°C. The first few minutes, I encountered rain. This immediately turned to ice—moderate to severe mixed ice. Immediately, my plane went into a rapid descent. I told Center I was in a rapid descent, at 6,500 feet...[and] could not hold altitude. They told me to make a right turn. I then broke into VMC at 6,300 feet with 20 miles visibility.*

The problem happened in 30 seconds. I have 150 hours of actual IFR, but have never encountered so much ice so fast.

Ice can accumulate even faster than this pilot reports—a windscreen can ice over in a little as five seconds. ▲

Resolutions Recycled

This controller's report first ran in *CALLBACK* nearly eight years ago, but the New Year's resolution it describes is still relevant. The image the reporter creates is pretty entertaining, too.

■ *Yes, controllers do talk too fast. We are using equipment...[that] engages a lot slower than our brains. It's hard, very hard, to wait after we key the mic before we speak. With today's hub system, there are times when non-stop talking isn't enough to keep up.*

I'm reminded of the “I Love Lucy” show where Lucy is working in the candy factory. As soon as she learns her job, the conveyor belt speeds up faster and faster. Well, I can't stuff aircraft in my pockets or down my shirt as Lucy did with the candy (much less eat them).

*Enough can't be said in favor of good radio discipline. It's the only real tool we have to make this system work. So, you folks in the air, use your full call sign, make sure that you **hear** your call sign, and I'll do my best to make sure that I'm heard and understood. Let's all make this a New Year's resolution we keep.* ▲

ASRS Recently Issued Alerts On...

Pitot-static system malfunction on an A-300
Difficult-to-understand digital ATIS transmissions
Parachuting activity near two Texas arrival routes
Localizer signal interference at a California airport
Recurring frequency interference at an ATC Center

A Monthly Safety Bulletin
from
**The Office of the NASA
Aviation Safety Reporting
System,**
P.O. Box 189,
Moffett Field, CA
94035-0189

October 1996 Report Intake

Air Carrier Pilots	1907
General Aviation Pilots	735
Controllers	131
Cabin/Mechanics/Military/Other	54
TOTAL	2827

“We Climb and Know It Not” -James Lawrence



A CFI reporter—and father of the pilot in the left seat—was momentarily distracted by parental pride and failed to maintain maximum vigilance to the instructional situation of the moment, the climb to an assigned altitude.

■ *My son, a student in the State University Aviation Science program, is a private pilot, and needs multi-engine time to pursue his professional pilot aspirations, so I decided to let him get some time in the Cessna 310. We reviewed the Pilot Handbook, especially the fuel system, control feel, V-speeds, etc.*

My son assumed the left seat and I took the right. We received our clearance including, “cleared as filed, climb and maintain 3,000 feet, expect 5,000 feet in 10 minutes.” My son was the sole manipulator of the controls and was doing a very good job. I was monitoring his technique, watching for traffic, and making occasional suggestions. [Shortly after takeoff], I glanced at the altimeter, which read 4,500 feet. We were then switched to Departure Control, where I confessed my error, begged forgiveness, and was cleared to 7,000 feet.

Contributing factors were amazement at seeing my “little boy” control a 600-hp aircraft so well, and letting myself

slip slightly out of the control loop. Usually when flying with my son, we’re in our C-172 (3 minutes to 3,000 feet), not this [modified] C-310 (55 seconds to 3,000 feet).

Please send more ASRS reporting forms—this isn’t the first mistake I’ve made and it won’t be the last.

A commuter First Officer also experienced an altitude overshoot, and made a timely observation about winter-time density altitudes.

■ *A cold, clear, winter day. No passengers or cargo aboard, so the aircraft climbed like a bandit. ATC gave us the usual clearance to “maintain at or below 1,500 feet.” After departure, we executed the after-takeoff checklist. We both glanced at the altimeter at the same time to find 2,000 feet! We pushed over to quickly recapture 1,500 feet (no passengers to pop out of their seats, thank goodness). No comment from ATC.*

This is the second time in two weeks that this has happened to me. [In warm weather], this airplane is usually a marginal climber compared to others in its class. We must brief on the super climb performance to be expected on [cold] days with light payloads. ▲

May the Right Ground be Found

A familiar flight can lull a pilot into a false sense of security. This lesson was learned by an experienced corporate Captain on a ferry flight, who was surprised to find himself at the wrong airport after a routine visual approach in daylight VMC.

■ *While on an IFR flight plan...our aircraft was cleared for a visual approach to Airport A. This was after both pilots had agreed that they had a positive I.D. on the airport and the First Officer had so informed Center. A normal landing was made. After shutdown, the crew was informed that they were wanted on the telephone. The call was from Center informing the crew that they had just landed at Airport Z, not Airport A.*

Basic cause: We did not take sufficient care in positively identifying the airport before informing Center that we had the airport in sight. Both airports have runway 12/30 as primary. Both are located north of their respective cities, and placed immediately west of the Interstate highway.

What can be done to avoid in future? Avoid complacency, particularly in low stress situations (good VFR weather conditions, familiar surroundings, no passengers aboard, etc.). Use all available resources (visual, printed, electronic) to establish position at all times.

The First Officer cited another excellent resource: “Using Crew Resource Management skills on Part 91 legs is as important as when passengers are aboard.”

Meanwhile, a general aviation pilot in much less favorable weather conditions came to some of the same conclusions after also landing somewhere other than expected.

■ *Filed IFR to XYZ due to stratus layer over the area. Intended to make the VOR approach to XYZ, then cancel IFR when below the clouds and proceed to [nearby final destination]. Approach advised that current weather would probably not permit flight under VFR [to final destination]. Stated my intention to land at XYZ and wait. Received clearance for XYZ VOR approach. Was advised to switch to CTAF, then contact Approach upon landing to cancel IFR. Broke out of the clouds at 900 feet MSL. Made visual contact with a rotating beacon, proceeded toward that beacon, made visual contact with the runway and landed. Contacted Approach to cancel IFR. Approach asked where I was. I stated that I was on the ground at XYZ. Approach advised me that I was actually on the ground at ABC [in Class C airspace].*

This incident serves a good lesson of what complacency can do to flying safety. I assumed that I would break out, see the airport, and land, which is exactly what I did.

The key to finding the right ground, as our reporters learned, is to use all available resources to continuously “update” assumptions and expectations about the aircraft's position. ▲